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| 10/776,446 | 02/11/2004 | Srinivasa H. Raghavan | D472A | 3697 |

7590 02/12/2008
Carole A. Mulchinski, M1/040
The Aerospace Corporation
2350 East El Segundo Boulevard
El Segundo, CA 90245

| EXAMINER |
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TAYONG, HELENE E

| ART UNIT | PAPER NUMBER |
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2611

| MAIL DATE | DELIVERY MODE |
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02/12/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/776,446

Applicant(s)

RAGHAVAN ET AL.

Examiner

Helene Tayong

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 April 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The request filed on 1/11/08 for a Request for Continued Examination (RCE) under 37 CFR 1.114 based on parent Application No. 10776446 is acceptable and a RCE has been established. An action on the RCE follows.

Specification

2. This amendment filled 1/11/08 is objected to under 35 U.S.C. 132 (a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the ordinary disclosure is as follows: Uniphase modulators are introduced in the specification.

Terminal Disclaimer

3. Acknowledgement is made of the terminal disclaimer filed on 5/29/07.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession

of the claimed invention. The uniphase modulator was not described in the specification. At the time of the disclosure, a uniphase modulator was not disclosed to uniphase modulate a spread spectrum signal. As shown in disclosed drawings, the modulator can be Quadrature modulation to modulate the dual spectrum signals.

Response to Arguments

6. Applicant's arguments with respect to Claims 1-11 rejected under 35 U.S.C. § 102(b) as being anticipated by Raghavan (US 7139302), have been considered but are not persuasive. The examiner believes that the cited reference reasonably and properly meets the original claimed limitation as rejected.

(1) **Applicant's arguments:** Raghavan fails to disclose *modulation in quadrature* by superimposing the two uniphase signals.

Examiner's response: Raghavan discloses a modulator (comprising (126 and 128 in fig. 4A)) for combining and communicating the first spread spectrum signal and the second spread spectrum signal into the dual spectrum signal (comprising (110a)) (col. 9, lines 2-4), wherein the first spread spectrum signal having a first spectrum (90) over the communication bandwidth and the second spread spectrum signal having a second spectrum (132) over the communication bandwidth (see figure 5A) (col. 11, lines 14-16).

(2) **Applicant's arguments:** Raghavan lack of mention of split and null spectra communication as applied to BPSK signaling.

Examiner's response: Raghavan discloses the first spectrum is a nonsplit

spectrum with a peak within the communication bandwidth, and the second spectrum is a split spectrum with a null within the communication bandwidth (see figure 5A, and col. 10, line 56 to col. 11, line 20).

Applicants are reminded that the Examiner is entitled to give the broadest reasonable interpretation to the language of the claim. So the examiner considers "a modulator for combining and communicating the first spread spectrum signal and the second spread spectrum signal into the dual spectrum signal" "as quadriphase modulation" within the broad meaning of the terms. The examiner is not limited to Applicant's definition, which is not specifically set fourth in the claims. In re Tanaka et al., 193 USPQ 139, (CCPA) 1977.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Raghavan et al (6,075,810).

(1) Regarding to claim 1,
see figures 3A, 3B, 5A, and col. 8, line 52 to col. 9, line 52, col. 10, line 56 to col. 11, line 20, Raghavan et al discloses a system (see figure 3A) for communicating a first formatted data stream (outputted from (32)) and a second formatted data stream

(outputted from (102)) through a dual spectrum signal (comprising (110a)) over a communication bandwidth, the system comprising:

a first code formatter (36) for formatting a first spreading code (outputted from (34)) into a first formatted code (col. 9, line 18-19)

a first spreader (38) for spectrum spreading the first formatted data stream by the first formatted code into a first spread spectrum signal (17a), (col. 10, lines 1-4)

a second code formatter (106) for formatting a second spreading code into a second formatted code (col. 9, lines 18-20),

a second spreader (108) for spectrum spreading the second formatted data stream by the second formatted code into a second spread spectrum signal (col.10, lines 1-2), and

a modulator (comprising (126 and 128 in fig. 4A)) for combining and communicating the first spread

spectrum signal and the second spread spectrum signal into the dual spectrum signal (comprising (110a)) (col.. 9, lines 2-4), wherein the first spread spectrum signal having a first spectrum (90) over the communication bandwidth and the second spread spectrum signal having a second spectrum (132) over the communication bandwidth (see figure 5A) (col. 11, lines 14-16), wherein,

the first code formatter is an NRZ code formatter (see 36 of fig 3A) ,and

the second code formatter is a staggered Manchester code formatter see (106) of fig 3A , col 8, lines 65-66).

(2) Regarding to claim 2,

the first spectrum is a nonsplit spectrum with a peak within the communication bandwidth, and the second spectrum is a split spectrum with a null within the communication bandwidth (see figure 5A, and col. 10, line 56 to col. 11, line 20).

(3) Regarding to claim 3,

the system is a code division multiple access system (see col. 9, lines 14-22).

(4) Regarding to claim 4,

a first receiver (see figure 3B and col. 3, lines 11-41, col. 9, lines 23-52) for spread spectrum despreding the first spread spectrum signal and the second spread spectrum signal, the first receiver comprising:

a first replica code formatter (60) for formatting a first replica spreading code (outputted from (60) into a first replica formatted code, the first replica spreading code being a replica of the first spreading code (col. 10, lines 34-35), and

a first despreader (54) for spectrum despreding the first spread spectrum signal by the first replica formatted code into a first despread signal (col. 10, lines 37-38).

(5) Regarding to claim 5,

a second receiver (see figure 3B, and col. 9, lines 23-52) for spread spectrum despreding the second spread spectrum signal and the second spread spectrum signal, the second receiver comprising:

a second replica code formatter (112) for formatting a second replica spreading code into a second replica formatted code, the second replica spreading code being a replica of the second spreading code (col. 10, lines 35-36), and

a second despreader (113) for spectrum despreding the second spread

spectrum signal into a second despread signal (col. 10, lines 37-38).

(6) Regarding to claim 6,

a first receiver (60, 54, 72, 76) and a second receiver (112, 113, 115, 117) (see figure 3B and col. 3, lines 11-41, col. 9, lines 23-52),

wherein the first receiver comprises:

a first replica code formatter (60) for formatting a first replica spreading code into a first replica formatted code, the first replica spreading code being a replica of the first spreading code, a first despreader (54) for spectrum despreding the first spread spectrum signal into a first despread signal, and a detector (76) for detecting the first data stream for the first despread signal;

and the second receiver comprises:

a second replica code formatter (112) for formatting a second replica spreading code into a second replica formatted code, the second replica spreading code being a replica of the second spreading code (col. 10, lines 35-36), and

a second despreader (113) for spectrum despreding the second spread spectrum signal by the second replica formatted code into a second despread signal Col. 10, lines 36-37).

(7) Regarding to claim 7,

a first replica code formatter (60) for formatting a first replica spreading code into a first replica formatted code, the first replica spreading code being a replica of the first spreading code, a first despreader (54) for spectrum despreding the first spread spectrum signal into a first despread signal,

a second replica code formatter (112) for formatting a second replica spreading code into a second replica formatted code, the second replica spreading code being a replica of the second spreading code (col. 10, lines 35-36), and

a second despreader (113) for spectrum despreding the second spread spectrum signal into a second despread signal (col. 10, lines 36-37), wherein
, the first code formatter is an NRZ formatter, the first spread spectrum signal is a nonsplit spectrum signal, the first spectrum is a nonsplit spectrum having a center peak, the second code formatter is a Manchester formatter (also known as Biphase -L), the second spread spectrum signal is a split spectrum signal, the second spectrum is a split spectrum having a center null, the first replica code formatter is an NRZ formatter, and the second replica code formatter is a Manchester code formatter (also known as Biphase -L) (see figures 3B, 5A, and col. 9, lines 22-52, col. 10, line 56 to col. 11, line 20).

(8) Regarding to claim 8,

a first replica code formatter (60) (see figure 3B) for formatting a first replica spreading code into a first replica formatted code, the first replica spreading code being a replica of the first spreading code,

a first despreader (54) (see figure 3B) for spectrum despreding the first spread spectrum signal into a first despread signal,

a second replica code formatter (112) (see figure 3B) for formatting a second replica spreading code into a second replica formatted code, the second replica spreading code being a replica of the second spreading code, and

a second despreader (113) (see figure 3B) for spectrum despreding the second spread spectrum signal into a second despread signal,

wherein, the first code formatter is in a transmitter (see figure 3A), the first spread spectrum signal is a nonsplit spectrum signal (see (90) of figure 5A), the second code formatter is in the transmitter (see figure 3A), the second spread spectrum signal is a split spectrum signal (see (132) of figure 5A), the first replica code formatter is in a first receiver (60, 54, 72, 76), the second replica code formatter is in a second receiver (112, 113, 115, 117), the first formatted data stream is communicated between the transmitter and the first receiver, and the second formatted data stream is communicated between the transmitter and the second receiver (see figures 3A, 3B, and col. 8, line 52 to col. 9, line 52, col. 10, line 56 to col. 11, line 20).

(9) Regarding to claim 9,

a first replica code formatter (60) (see figure 3B) for formatting a first replica spreading code into a first replica formatted code, the first replica spreading code being a replica of the first spreading code,

a first despreader (54) (see figure 3B) for spectrum despreding the first spread spectrum signal into a first despread signal, a second replica code formatter (112) (see figure 3B) for formatting a second replica

spreading code into a second replica formatted code, the second replica spreading code being a replica of the second spreading code, and

a second despreader (113) (see figure 3B) for spectrum despreding the second spread spectrum signal into a second despread signal,

wherein, the first code formatter is an NRZ formatter (see (36) of figure 3A), the first spread spectrum signal is a nonsplit spectrum signal (see (90) of figure 5A), the second code formatter is a Manchester formatter(also known as Biphase -L) (see (106) of figure 3A), the second spread spectrum signal is a split spectrum signal (see (132) of figure 5A), the first replica code formatter is an NRZ formatter (see (60) of figure 3B), the second replica code formatter is a Manchester code formatter (also known as Biphase -L) (see (112) of figure 3B), the first code formatter and the second code formatter are disposed in a transmitter (see figure 3A).

(10) Regarding to claim 10,
the staggered Manchester format is a staggered Biphase-L format (Manchester format also known as biphase -L(106 of fig. 3A, col. 8, lines 65-66).

(11) Regarding to claim 11,
the staggered Manchester (106, of fig. 3A) format is a staggered binary offset carrier format (Interpreted as generalized Manchester code format,(106, of fig. 3A, (106 of fig. 3A, col. 8, lines 65-66).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Raghavan et al. (US patent number 6075810) discloses NRZ and Biphase-formatted Hexaphase modulated GPS Transmission method.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helene Tayong whose telephone number is 571-270-1675. The examiner can normally be reached on Monday-Friday 8:00 am to 5:30 pm

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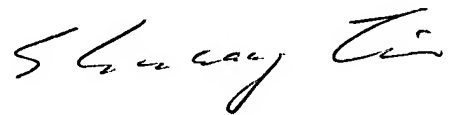
EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Liu Shuwang can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Helene Tayong

2/4/08

A handwritten signature in black ink, appearing to read "Shuwang Liu", is written in a cursive style.

SHUWANG LIU
SUPERVISORY PATENT EXAMINER